

What is claimed is:

1 1. A recording apparatus comprising:

2 a recording unit operable to record video data and
3 playback control information corresponding to the video data onto
4 a recording medium, the playback control information controlling
5 playback operation of a playback apparatus;

6 a detecting unit operable to detect an abnormality which
7 indicates that the recording unit abnormally stopped recording of
8 a piece of video data and failed to record a corresponding piece
9 of playback control information onto the recording medium;

10 a generating unit operable to, when the detecting unit
11 detects the abnormality, generate a piece of playback control
12 information corresponding to the piece of video data which was
13 abnormally stopped being recorded; and

14 a controlling unit operable to control the recording
15 unit to record the generated piece of playback control information
16 onto the recording medium.

1 2. The recording apparatus of Claim 1, wherein

2 each piece of playback control information contains
3 section information indicating a playback section of a
4 corresponding piece of video data to the playback apparatus.

1 3. The recording apparatus of Claim 2, wherein

2 the detecting unit detects that the recording unit

abnormally stopped recording of a piece of video data due to lack of recording space in the recording medium, and

the controlling unit deletes from the recording medium the end portion of the piece of video data which was abnormally stopped being recorded and controls the recording unit to record the generated piece of playback control information onto the recording medium.

4. The recording apparatus of Claim 3, wherein

each piece of video data includes a plurality of video units, and

the controlling unit deletes from the recording medium the last, incomplete video unit of the piece of video data which was abnormally stopped being recorded, as the end portion thereof.

5. The recording apparatus of Claim 3, wherein

each piece of playback control information further contains an address table that includes discrete recording addresses of video data, the address table being referred to by the playback apparatus for a fastforward playback and a rewinding playback, and

the recording apparatus further comprises

a storing unit operable to store video unit information which shows recording addresses and sizes of video units included

10 in a piece of video data that is being recorded by the recording
11 unit, wherein

12 the generating unit generates a piece of playback
13 control information in accordance with the video unit information
14 stored in the storing unit, and

15 the controlling unit calculates a size of the piece of
16 video data using the video unit information, the calculated size
17 being less than the actual size of the piece of video data having
18 been recorded by the recording unit, and deletes the end portion
19 of the piece of video data having a size obtained by subtracting
20 the calculated size from the actual size.

1 6. The recording apparatus of Claim 2, wherein

2 the detecting unit detects that the recording unit
3 abnormally stopped recording of a piece of video data because a
4 power supply to the recording apparatus had stopped during
5 recording of video data.

1 7. The recording apparatus of Claim 6, wherein

2 each piece of video data includes a plurality of video
3 units,

4 each piece of playback control information further
5 contains an address table that includes discrete recording
6 addresses of video data, the address table being referred to by
7 the playback apparatus for a fastforward playback and a rewinding

8 playback, and

9 the recording apparatus further comprises

10 a storing unit operable to store video unit information
11 into a nonvolatile memory, the video unit information showing
12 recording addresses and sizes of video units included in a piece
13 of video data that is being recorded by the recording unit,
14 wherein

15 the detecting unit detects whether a power failure
16 occurred during recording of video data by referring to the
17 nonvolatile memory immediately after the recording apparatus is
18 powered on, and

19 the generating unit generates a piece of playback
20 control information in accordance with the video unit information
21 stored in the nonvolatile memory when the detecting unit detects
22 that the power failure occurred.

1 8. The recording apparatus of Claim 6, wherein

2 each piece of video data includes a plurality of video
3 units, and

4 the controlling unit deletes from the recording medium
5 the last, incomplete video unit of the piece of video data which
6 was abnormally stopped being recorded.

1 9. The recording apparatus of Claim 8, wherein

2 the controlling unit calculates a size of the piece of

video data which was abnormally stopped being recorded, using the video unit information, the calculated size being less than the actual size of the piece of video data having been recorded by the recording unit, and deletes the incomplete video unit having a size obtained by subtracting the calculated size from the actual size.

10. A recording apparatus comprising:

a recording unit operable to record video data and playback control information corresponding to the video data onto a recording medium, the playback control information controlling playback operation of a playback apparatus;

a detecting unit operable to detect that the recording unit stopped recording due to lack of recording space in the recording medium;

a generating unit operable to, when the detecting unit detects that the recording unit stopped recording, generate a piece of playback control information corresponding to the piece of video data which was abnormally stopped being recorded; and

a controlling unit operable to delete from the recording medium the end portion of the piece of video data which was stopped being recorded and controls the recording unit to record the generated piece of playback control information onto the recording medium.

1 11. A recording apparatus comprising:

2 a recording unit operable to record video data and
3 playback control information corresponding to the video data onto
4 a recording medium, the playback control information containing
5 (a) section information indicating a playback section of a
6 corresponding piece of video data to the playback apparatus and
7 (b) an address table that includes discrete recording addresses of
8 video data, the address table being referred to by the playback
9 apparatus for a fastforward playback and a rewinding playback;

10 a storing unit operable to store video unit information
11 into a nonvolatile memory, the video unit information showing
12 recording addresses and sizes of video units included in a piece
13 of video data that is being recorded by the recording unit,
14 wherein

15 the detecting unit operable to detect whether the
16 recording unit abnormally stopped recording of a piece of video
17 data due to a stoppage of power supply to the recording
18 apparatus;

19 a generating unit operable to, when the detecting unit
20 detects that the recording unit abnormally stopped recording,
21 generate a piece of playback control information corresponding to
22 the piece of video data which was abnormally stopped being
23 recorded; and

24 a controlling unit operable to control the recording
25 unit to record the generated piece of playback control information

26 onto the recording medium.

1 12. A recording method comprising:

2 a first recording step for recording video data and
3 playback control information corresponding to the video data onto
4 a recording medium, the playback control information controlling
5 playback operation of a playback apparatus;

6 a detecting step for detecting an abnormality which
7 indicates that the recording step abnormally stopped recording of
8 a piece of video data and failed to record a corresponding piece
9 of playback control information onto the recording medium;

10 a generating step for, when the detecting step detects
11 the abnormality, generating the piece of playback control
12 information corresponding to the piece of video data which was
13 abnormally stopped being recorded; and

14 a second recording step for recording the generated
15 piece of playback control information onto the recording medium.

1 13. The recording method of Claim 12, wherein

2 each piece of playback control information contains
3 section information indicating a playback section of a
4 corresponding piece of video data to the playback apparatus.

1 14. The recording method of Claim 13, wherein

2 the detecting step detects that the recording step

abnormally stopped recording of a piece of video data due to lack of recording space in the recording medium, and

the second recording step deletes from the recording medium the end portion of the piece of video data which was abnormally stopped being recorded and records the generated piece of playback control information onto the recording medium.

15. The recording method of Claim 13, wherein

the detecting step detects that the recording step abnormally stopped recording of a piece of video data because a power supply to the recording medium had stopped during recording of video data.

16. The recording method of Claim 15, wherein

each piece of video data includes a plurality of video units,

each piece of playback control information further contains an address table that includes discrete recording addresses of video data, the address table being referred to by the playback apparatus for a fastforward playback and a rewinding playback, and

the recording method further comprises

a storing step for storing video unit information into a nonvolatile memory, the video unit information showing recording addresses and sizes of video units included in a piece of video

13 data that is being recorded in the recording step, wherein
14 the detecting step detects whether a power failure
15 occurred during recording of video data by referring to the
16 nonvolatile memory immediately after the recording apparatus is
17 powered on, and

18 the generating step generates a piece of playback
19 control information in accordance with the video unit information
20 stored in the nonvolatile memory when the detecting step detects
21 that the power failure occurred.

1 17. A computer-readable recording medium storing a program that
2 allows a computer in a recording apparatus to execute:

3 a first recording step for recording video data and
4 playback control information corresponding to the video data onto
5 a recording medium, the playback control information controlling
6 playback operation of a playback apparatus;

7 a detecting step for detecting an abnormality which
8 indicates that the recording step abnormally stopped recording of
9 a piece of video data and failed to record a corresponding piece
10 of playback control information onto the recording medium;

11 a generating step for, when the detecting step detects
12 the abnormality, generating the piece of playback control
13 information corresponding to the piece of video data which was
14 abnormally stopped being recorded; and

15 a second recording step for recording the generated

16 piece of playback control information onto the recording medium.

1 18. The recording medium of Claim 17, wherein

2 each piece of playback control information contains
3 section information indicating a playback section of a
4 corresponding piece of video data to the playback apparatus.

1 19. The recording medium of Claim 18, wherein

2 the detecting step detects that the recording step
3 abnormally stopped recording of a piece of video data due to lack
4 of recording space in the recording medium, and

5 the second recording step deletes from the recording
6 medium the end portion of the piece of video data which was
7 abnormally stopped being recorded and records the generated piece
8 of playback control information onto the recording medium.

1 20. The recording medium of Claim 18, wherein

2 the detecting step detects that the recording step
3 abnormally stopped recording of a piece of video data because a
4 power supply to the recording medium had stopped during recording
5 of video data.

1 21. The recording medium of Claim 20, wherein

2 each piece of video data includes a plurality of video
3 units,

4 each piece of playback control information further
5 contains an address table that includes discrete recording
6 addresses of video data, the address table being referred to by
7 the playback apparatus for a fastforward playback and a rewinding
8 playback, and

9 the program further allows the computer to execute
10 a storing step for storing video unit information into
11 a nonvolatile memory, the video unit information showing recording
12 addresses and sizes of video units included in a piece of video
13 data that is being recorded in the recording step, wherein

14 the detecting step detects whether a power failure
15 occurred during recording of video data by referring to the
16 nonvolatile memory immediately after the recording apparatus is
17 powered on, and

18 the generating step generates a piece of playback
19 control information in accordance with the video unit information
20 stored in the nonvolatile memory when the detecting step detects
21 that the power failure occurred.

22. A program that allows a computer in a recording apparatus to
execute:

3 a first recording step for recording video data and
4 playback control information corresponding to the video data onto
5 a recording medium, the playback control information controlling
6 playback operation of a playback apparatus;

7 a detecting step for detecting an abnormality which
8 indicates that the recording step abnormally stopped recording of
9 a piece of video data and failed to record a corresponding piece
10 of playback control information onto the recording medium;

11 a generating step for, when the detecting step detects
12 the abnormality, generating the piece of playback control
13 information corresponding to the piece of video data which was
14 abnormally stopped being recorded; and

15 a second recording step for recording the generated
16 piece of playback control information onto the recording medium.

1 23. The program of Claim 22, wherein

2 each piece of playback control information contains
3 section information indicating a playback section of a
4 corresponding piece of video data to the playback apparatus.

1 24. The program of Claim 23, wherein

2 the detecting step detects that the recording step
3 abnormally stopped recording of a piece of video data due to lack
4 of recording space in the recording medium, and

5 the second recording step deletes from the recording
6 medium the end portion of the piece of video data which was
7 abnormally stopped being recorded and records the generated piece
8 of playback control information onto the recording medium.

1 25. The program of Claim 23, wherein

2 the detecting step detects that the recording step
3 abnormally stopped recording of a piece of video data because a
4 power supply to the recording medium had stopped during recording
5 of video data.

1 26. The program of Claim 25, wherein

2 each piece of video data includes a plurality of video
3 units,

4 each piece of playback control information further
5 contains an address table that includes discrete recording
6 addresses of video data, the address table being referred to by
7 the playback apparatus for a fastforward playback and a rewinding
8 playback, and

9 the program further allows the computer to execute
10 a storing step for storing video unit information into
11 a nonvolatile memory, the video unit information showing recording
12 addresses and sizes of video units included in a piece of video
13 data that is being recorded in the recording step, wherein

14 the detecting step detects whether a power failure
15 occurred during recording of video data by referring to the
16 nonvolatile memory immediately after the recording apparatus is
17 powered on, and

18 the generating step generates a piece of playback
19 control information in accordance with the video unit information

20 stored in the nonvolatile memory when the detecting step detects that the power failure occurred.